CLAIMS

1. Series (1) of electrolytic cells intended for the production of aluminium by means of fused bath electrolysis according to the Hall-Heroult process and comprising:

- a plurality of electrolytic cells (101, 102,... 101', 102'...) arranged so as to form at least one first and one second lines of cells that are rectilinear and parallel with each other, said cells (101, 102,... 101', 102',...) being arranged transversally with the longitudinal axis A, A' of each line with a constant center distance Eo between the cells, each cell (101, 102,... 101', 102'...) having a length Lo;

- connecting conductors (12,... 17) between the cells of each line;

- a so-called "internal" correction circuit (200), comprising at least one first internal correction conductor (20), located along the first line on the side thereof facing the second line, one second internal correction conductor (20'), located along the second line on the side thereof facing the first line, and at least one so-called "internal" connecting conductor (21);

- a so-called "main" connecting circuit (400) between the end cell (101) of the first line and the end cell (101') of the second line;

and characterised in that, for at least one of said lines:

- the main connecting circuit (400) comprises at least one layer of conductors (40, 40') wherein each conductor(401, 401') is connected to the end cell (101, 101') of the line and extends to a determined distance (D2, D2') therefrom,

- the internal correction circuit (200) also comprises at least one rectilinear conductor (23, 23'), referred to as the "transverse segment", which is connected to the internal correction conductor(20, 20'), is arranged perpendicularly with respect to the longitudinal axis A, A' of the line and runs along the end cell (101, 101') of the line, at a determined distance (D1, D1'), over a determined portion L of the length Lo of the end cell.

2. Series of electrolytic cells according to claim 1, characterised in that the determined portion L is greater than 0.5 Lo.

3. Series (1) of electrolytic cells according to claim 1, characterised in that the determined fraction L is greater than 0.8 Lo.

4. Series (1) of electrolytic cells according to any one of claims 1 to 3, characterised in the or each distance (D2, D2') is at least equal to once the center distance Eo.

5. Series (1) of electrolytic cells according to any one of claims 1 to 3, characterised in each distance (D2, D2') is at least equal to twice the center distance Eo.

6. Series (1) of electrolytic cells according to any one of claims 1 to 5, characterised in that the or each layer of conductors(40, 40') covers at least 80% of the length Lo of the cells (101, 102,... 101', 102',...).

7. Series (1) of electrolytic cells according to any one of claims 1 to 6, characterised in that the or each layer (40, 40') is plane.

8. Series (1) of electrolytic cells according to any one of claims 1 to 7, characterised in that the conductors (401, 401') of the or each layer (40, 40') are distributed so as to be parallel and located at the same distance from each other.

9. Series (1) of electrolytic cells according to any one of claims 1 to 8, characterised in that the main connecting circuit (400) comprises at least one joining conductor (41, 41'), to which the conductors (401, 401') of the or each layer (40, 40') are connected.

10. Series (1) of electrolytic cells according to claim 9, characterised in that the joining conductor (41, 41') is rectilinear, arranged perpendicularly with respect to the longitudinal axis A, A' of the line and located at the or each determined distance (D2, D2').

11. Series (1) of electrolytic cells according to any one of claims 9 or 10, characterised in that the length of the joining conductor (41, 41') is substantially equal to the width W of the or each layer (40, 40').

12. Series (1) of electrolytic cells according to any one of claims 1 to 11, characterised in that the main connecting circuit (400) comprises a so-called "transverse" conductor (43) arranged perpendicularly with respect to the longitudinal axis A, A' of the lines and at a determined distance (D3) from the end cell (101, 101') of the lines.

13. Series (1) of electrolytic cells according to claim 12, characterised in that the main connecting circuit (400) comprises at least one joining conductor (41, 41'), to which the conductors (401, 401') of the layer(40, 40') are connected, and in that the or each joining conductor (41, 41') is rectilinear, arranged perpendicularly with respect to the longitudinal axis A, A' of the lines and located at said determined distance D2 and/or D2'.

14. Series (1) of electrolytic cells according to claim 13, characterised in that the main connecting circuit (400) also comprises a connecting conductor (42, 42') connected to the joining conductor(41, 41'), on one hand, and to the transverse connecting conductor (43), on the other, in order to ensure the electrical continuity between these conductors, and in that the connecting conductor (42, 42') is rectilinear, parallel with the longitudinal axis A, A' of the line and located at a determined distance of said axis.

15. Series (1) of electrolytic cells according to any one of claims 1 to 14, characterised in that the internal connecting conductor (21) comprises a so-called "transverse" conductor arranged perpendicularly with respect to the longitudinal axis of the lines A, A' and at a determined distance (D4) of the end cell (101, 101') of the lines.

16. Series (1) of electrolytic cells according to any one of claims 1 to 15, characterised in that it also comprises a so-called "external" correction circuit (300), comprising at least one first external correction conductor (30), located along the first line on the side thereof opposite the second line, one second external correction conductor (30'), located along the second line on the side thereof opposite the first line, and one so-called external connecting conductor (31).

17. Series (1) of electrolytic cells according to claim 16, characterised in that the external connecting conductor (31) comprises a so-called transverse conductor arranged perpendicularly with respect to the longitudinal axis of the lines A, A' and at a determined distance (D5) from the end cell (101, 101') of the lines.